In the Specification:

The paragraph beginning on page 3, line 1 is amended as follows:

"Data entry into an electronic spreadsheet occurs in much the same manner that information would be entered on an accountant's pad. After a screen cursor is positioned at a desired location, the user can enter alphanumeric information. Besides holding text and numeric information, however, spreadsheet cells can store special instructions or "formulas" specifying calculations to be performed on the numbers stored in spreadsheet cells. Such spreadsheet cells can also be defined and named as a range of cells as long as they are arranged as a ~~rectangule~~ rectangle or cube set of cells. A typical example of such a named range simply corresponds to a regular table found in an accountant's pad. In this fashion, range names can serve as variables in an equation, thereby allowing precise mathematical relationships to be defined between cells. The structure and operation of a spreadsheet program, including advanced functions such as functions and macros, are documented in the technical, trade, and patent literature."

The paragraph beginning on page 4, line 10 is amended as follows:

"It is common to find in electronic spreadsheet based applications some two-dimensional (2D) or three-dimensional (3D) tables which are defined as ranges of cells and which record the values of a function of the form **y=f(x),** or **z=f(x, y).** Without ~~loosing~~ losing any generality, the rest of our description will assume a 2D table with associated relationships of the form **y=f(x).** The values taken by such functions can either follow a theoretical model or represent some experimental measures. In the former case, the cell will typically be filled with a formula representing the theoretical relationship between the input variable (the **x** parameter) and the ~~ouput~~ output variable (the **y** parameter). In the later case some cells within the range of cells will contain

values corresponding to samples obtained by experimentation, whereas the remaining cells within the range are left empty. Keeping such void cells is generally a problem because these cells, if used as parameters within formulas or functions, lead to ERR cells. It is thus desirable to fill these empty cells with some values. Conventional spreadsheet tools offer some means for that, but with some severe limitations as outlined hereafter. When a range of cells is selected, conventional electronic spreadsheet applications (like Excel from Microsoft Corporation or like 1-2-3 from Lotus Corporation) allow to fill the range in different ways, according to options and parameters that can be specified in menus, sub-menus or dialog boxes."

The paragraph beginning on page 17, line 3 is amended as follows:

"As the power of spreadsheet environments has increased, it is today possible to develop complex custom applications solely based on spreadsheets, as opposed to applications developed with general purpose programming languages like C++ or VisualBasic from Microsoft Corporation. This can be achieved thanks to the spreadsheet imbedded tools such as ranges of cells, macro languages, script languages and formulas. In large spreadsheets, it is common to find structured tables where the content of some cells belonging to a sub-set of the structured table, is filled with information (the "values") derived from experimentation samples and where other cells not belonging to this same sub-set of the structured table (because the experimentation didn't provide the values), are either left empty or are filled with values derived from the sample values according to some underlying model. Such tables and associated experimentation samples can be defined in various fields, like in biology, or in physics, or in demography sciences, or in consumer behaviour or stock exchange modeling. Referring to FIG **3A**, the table delimited by double line borders corresponds to a range of cells with two columns. The left column holds

some values $\{x_i\}$ and the right column holds some values $y_i = f(x_i)$, with only the top, second, fifth, ~~fiftenth~~ fifteenth and last cells containing values derived from measurements. All the other cells within the ~~left~~ right column are left empty as no measurement information is available to fill them. The plot on the right side of the range shows in a graphical way the available samples. By using conventional means for filling the rightmost column of the table (such as the "Fill by example" tool available with the Lotus Corporation 1-2-3 spreadsheet), the spreadsheet user gets a result as depicted in FIG **3B**: the two first cells of the column are kept unchanged and the other ones are evaluated as a linear extrapolation of the two first cells. Doing so, the existing samples (fifth, fifteenth and last cells) are overwritten, that is lost. The plot on the right side of the table shows the poor result of the range filling operation done with these conventional means. This single example is just an illustration of the fact that the means available in conventional electronic spreadsheets, can only properly fill a range of cells if the following conditions are met:

The only available samples are the first two ones in the range of cells.

The underlying function should be close enough to either an arithmetic or geometric law.

The $\{x_i\}$ values, as introduced above, should be arranged as a geometric sequence."

The paragraph beginning on page 18, line 21 is amended as follows:

"Such conditions are difficult to meet, so that the conventional range filling operational means raise more difficulties than they solve. The present invention offers a user-friendly solution to this problem by defining a method and system allowing to persistently fill a range of cells on the basis of some samples. With the same example as the one introduced above, the FIG **3C** shows how a preferred embodiment of the present invention fills the rightmost column of the range. The

plot on the right side allows to compare the samples, the output of the conventional fill-by-example operation, the output of the fill-by-sample operation according to a preferred embodiment of the present invention, and the theoretical curve which was approximated by the samples. Furthermore the FIG **3D** shows how a preferred embodiment of the present invention reacts upon the introduction of a new sample. The conventional means such as the fill-by-example operation do not react to the introduction of a new sample; or to the modification of an existing sample or to the deletion of an existing sample. The present invention dynamically updates the filled values within the range of cells as soon as a sample value is either added, or changed, or deleted. In the example of FIG **3D**, a new sample (the middle cell in the table corresponding to x = 75) is introduced: its measured value -10 supersedes the previous ones [[-4]] -5 in FIG 3C which was obtained by the fill-by-sample operation. As a result, the values of the neighbour cells are updated to take into account the new sample."